

AMENDMENTS TO THE CLAIMS

1 to 114. Canceled

115. (New) A method of determining a preferred segmentation for at least a first data set and a second data set, wherein each data set includes a plurality of elements and is segmented into a number of groups that is less than or equal to the number of elements, comprising:

(A) inputting the first and second data sets and association values representing an association between one or more elements of the first data set and one or more elements of the second data set;

(B) modifying a segmentation of each of the first and second data sets to produce first and second modified data sets having different groups than the first and second data sets;

(C) calculating group association values based on the association values, the group association values indicating an association between groups of the first modified data set and groups of the second modified data set;

(D) calculating a metric based on the group association values, the metric representing a measure of an optimization of the segmentations;

(E) where the metric represents an optimization below a desired level of optimization, modifying the segmentation of at least one of the first and second data sets and recalculating group association values and the metric;

(F) where the metric represents an optimization level that equals or exceeds the desired level of optimization, outputting the segmentation for the first and second data sets.

116. (New) The method of claim 115, wherein the first and second data sets are categorical data sets.

117. (New) The method of claim 116, wherein one of the first and second data sets represents customers

118. (New) The method of claim 117, wherein a second one of the first and second data sets represents products.

119. (New) The method of claim 118, wherein the association values represent an association between customers and products.

120. (New) The method of claim 119, wherein the association values represent revenue.

121. (New) The method of claim 119, wherein the association values represent profit.

122. (New) The method of claim 121, wherein outputting the segmentation includes displaying a representation of the group association values.

123. (New) The method of claim 115, wherein (B) comprises aggregating and the number of groups of the first modified data set is less than the number of groups of the first data set.

124. (New) The method of claim 115, wherein (B) comprises refining and the number of groups of the first modified data set is greater than the number of groups of the first data set.

125. (New) The method of claim 115, wherein (B) comprises both aggregating and refining.

126. (New) The method of claim 115, wherein the value of the metric is optimal with respect to a set of admissible functions of the first and second modified data sets.

127. (New) The method of claim 115, wherein (E) comprises determining whether any of the first and second modified data sets has converged.

128. (New) The method of claim 115, wherein (E) comprises determining whether a matrix defined by a cross-space of the first and second modified data sets has converged.

129. (New) The method of claim 115, wherein (E) comprises determining whether a function of a matrix defined by a cross-space of the first and second modified data sets has converged.

130. (New) The method of claim 129, wherein (E) further comprises determining whether an overall association value corresponding to an association between the first and second modified data sets has converged.

131. (New) The method of claim 115, wherein (E) comprises determining whether a permutation signifying an ordering of any of the first and second modified data sets has converged.

132. (New) The method of claim 115, wherein a matrix defined by a cross-space of the first and second data sets is populated with live data such that the matrix is dynamic.

133. (New) The method of claim 115, wherein (D) comprises calculating a value of a metric taken on a matrix, wherein the matrix defined by a cross-space formed by the first and second modified data sets and, wherein the metric is a linear arithmetic operation on a plurality of elements of the matrix.

134. (New) The method of claim 115, wherein the first and second data sets are input into a computer for processing according to steps (B), (C) and (D), steps (B), (C) and (D) being implemented in software on the computer.

135. (New) The method of claim 134, wherein outputting the segmentation includes displaying a representation of the group association values on a computer display.

136. (New) The method of claim 135, wherein the display of a representation of the group association values takes the form of a cross-matrix defined by the first and second data sets.